REMARKS

Status of the Application

In the Final Office Action dated November 6, 2006, pending Claims 1-30 were rejected. These rejections were maintained in the Advisory Action of January 8, 2007, as Examiner found the arguments put forth in the December 5, 2006, Response unpersuasive. In the present Response, Claims 1 and 16 have been amended to include an additional limitation previously contained in Claims 2 and 17, respectively, and Claims 2 and 17 have been concomitantly amended to remove this limitation. Support for these amendments can be found in original Claims 2 and 17. In addition, new Claims 46-53 have been added, support for which can be found in original Claims 1, 10-13, 16, and 26-29. Thus, Claims 1-30 and 46-53 are now pending in this application. No new matter was added.

Rejections Under 35 U.S.C. § 102(b)

Examiner has rejected Claims 16-30 under 35 U.S.C. § 102(b) as being anticipated by Casey et al. (WO 01/68962; hereinafter "Casey"). While Applicants in no way admit that these claims in their original form are anticipated by Casey, Claim 16, upon which all other rejected claims rely, has been amended to include the additional limitation of original Claim 17, which requires the fibers to be melt-spun on equipment containing a quench zone shorter than 16 feet. Despite Examiner's assertion that Claim 17 is also anticipated by Casey, this quench zone length limitation is nowhere taught in Casey. In fact, Casey specifically teaches that quench zones must be longer than 16 feet for the process disclosed therein to be effective. For instance, Casey states that "[i]t is important that a long fiber culmination zone (the distance from the spinneret to the take up roll) be used . . . [meaning] the zone should be 16 to 20 feet rather than the standard 8 to 12 feet for PET" (Casey at page 9, lines 9-15). As the present application defines a quench zone as the "distance from the spinneret . . . to the roll that is used to forward the spun fiber at draw-off speed to cans" (Application at page 7, lines 6-10), Casey clearly teaches quench zones longer than 16 feet. Casey therefore fails to teach the additional limitation of amended Claim 16. Since "[a] claim is anticipated only if each and every element as set

forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP § 2131, quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987)), Casey fails to anticipate this claim. As the remainder of Claims 17-30 are all dependent upon, and narrower than Claim 16, all claims should be deemed novel over this reference. Applicants therefore respectfully request that this rejection be withdrawn.

Applicants also wish to note that new Claim 50, which is based on previously presented Claim 16, also contains an additional limitation not disclosed by Casey, thereby making this claim and its dependent claims novel over Casey, as well. Claim 50 recites all elements of previous Claim 16, but adds an additional limitation taken from previous Claim 26, specifically that the yarn be drawn "under wet conditions at a temperature of less than 60°C." Again, despite Examiner's assertion that Claim 26 is anticipated by Casey, this draw temperature is nowhere taught in the Casey reference. In fact, Casey again actually teaches away from this temperature, specifically teaching that the draw must be accomplished at a temperature of 60°C or greater. For instance, Casey states at page 3, lines 20-21 that the yarn is to be drawn "at a temperature of at least 60°C, preferably 60-100°C." Similarly, Casey states that "[t]he initial draw point of the UDY tow in the first draw stage should occur under water heated to a minimum of 60°C, preferably 60 to 100°C" (Casey at page 12, lines12-14; see also Example 2 and Figs. 7-12). Casey therefore also fails to teach the additional limitation of new Claim 50, and thus fails to anticipate this claim. As Claims 51-53 are all dependent upon, and narrower than Claim 50, these claims should be deemed novel over this reference, as well.

Lastly, Applicants would like to point out that the additional limitations of Claims 21, 27, and 51 are also not taught by Casey, and therefore possess independent novelty. Claim 21 recites that "during said prewetting and drawing, said yarn is in the form of a spun rope of less than about 200,000 denier/inch." This limitation is nowhere taught by Casey. Casey discusses the denier of the spun rope only once, stating that "[a] 600,000 denier drawn tow will satisfactorily feed a 110 mm wide by 20 mm high crimper" (Casey at page 11, lines 16-18), which clearly does not teach the limitation of Claim 21. As for Claims 27 and 51, these claims contain an additional limitation requiring the first draw to be "carried

out at a temperature of about 50°C to about 55°C." As discussed above, Casey not only fails to positively state such a temperature range, but even states that temperatures above 60°C are necessary. Thus, even if the claims from which they depend are non-novel, the additional limitations of Claims 21, 27, and 51 makes these claims novel over Casey.

Rejections Under 35 U.S.C. § 103(a)

Examiner has further rejected Claims 16-30 under 35 U.S.C. § 103(a) as being obvious in view of Casey. More specifically, Examiner asserts that Casey teaches all limitations of the rejected claims with the exception of the limitation in Claim 16 requiring the yarn to be drawn "in a first stage to a length of about 30 to about 90 percent of its final length." However, Examiner asserts that this limitation would have been obvious to one skilled in the art in view of Casey's teaching of two drawing stages (November 6, 2006, Final Office Action at page 3 (referencing June 8, 2006, Non-Final Office Action at page 5)). In addition, Examiner has rejected Claims 1-15 under 35 U.S.C. § 103(a) as being obvious in view of Casey and further in view of Hernandez et al. (U.S. Patent Application Publication No. 2002/0071951 A1, hereinafter "Hernandez"). Specifically, Examiner asserts that all limitations of Claims 1-15 are taught or made obvious by Casey for the above reasons, with the exception of the Claim 1 limitation requiring the product produced to be a 6-25 dpf carpet staple fiber. However, Examiner asserts that Hernandez teaches a method of making a 6-25 dpf carpet staple fiber and that it would have been obvious to one skilled in the art to combine Hernandez with Casey to arrive at the present invention. Applicants herein demonstrate that Casey fails to teach, suggest, or otherwise make obvious the asserted claim limitations, and respectfully traverse these rejections.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" (MPEP § 2143.03, citing *In re Royoka*, 490 F.2d 981 (CCPA 1974)). Here, as discussed above, Casey fails to teach or suggest several claim limitations, making these claims nonobvious in view of these references. First, amended independent Claims 1 and 16 include a limitation requiring the quench zone length to be shorter than 16

feet. As discussed above, Casey fails to teach or even suggest this claim limitation, instead specifically limiting quench zones useful therein to 16-20 feet in length. As such, contrary to Examiner's assertion, Casey fails to teach all of the limitations of amended Claims 1 and 16, thereby making these claims nonobvious in view of these references. Similarly, also as discussed above, Casey fails to teach the additional limitation of new independent Claims 46 and 50, requiring the yarn to be drawn under wet conditions at a temperature of less than 60°C. Thus, Casey fails to teach all limitations of Claims 46 and 50, making these claims also nonobvious over these references. Further, as discussed above, Casey fails to teach the additional limitations of dependent Claims 5 and 21, requiring the spun yarn to be in the form of a spun rope of less than about 300,000 or 200,000 denier/inch, respectively, and dependent Claims 11, 27, 47, and 51 requiring the first draw to be carried out at a temperature of about 50°C to about 55°C, making these dependent claims nonobvious over Casey, even if the claims from which they depend are deemed obvious. Casey therefore fails to teach or suggest limitations of independent Claims 1, 16, 46, and 50, as well as additional dependent claim limitations, thereby making all pending claims nonobvious in view of these references.

In addition, Casey teaches away from several of the rejected claims' limitations, further demonstrating the nonobviousness of these claims. "A prior art reference that 'teaches away' from the claimed invention is a significant factor to be considered in determining obviousness" (MPEP § 2145.X.D.1.). Moreover, "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (MPEP § 2143.02.VI, citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983)). Here, Casey specifically teaches that quench zones must be longer than 16 feet for the process disclosed therein to be effective. For instance, Casey states that "[i]t is important that a long fiber culmination zone (the distance from the spinneret to the take up roll) be used . . . [meaning] the zone should be 16 to 20 feet rather than the standard 8 to 12 feet for PET" (Casey at page 9, lines 9-15). As the present application defines a quench zone as the "distance from the spinneret . . . to the roll that is used to forward the spun fiber at

draw-off speed to cans," Casey teaches quench zones longer than 16 feet. Thus, Casey's disclosure specifically teaches away from the limitation of Claims 11 and 16 requiring the quench zone to be shorter than 16 feet, again demonstrating the nonobviousness of these claims.

Similarly, Casey also teaches away from the draw temperature limitations of independent Claims 46 and 50 and dependent Claims 11, 27, 47, and 51. Casey states at page 3, lines 20-21 that the yarn is to be drawn "at a temperature of at least 60°C, preferably 60-100°C." Similarly, Casey states that "[t]he initial draw point of the UDY tow in the first draw stage should occur under water heated to a minimum of 60°C, preferably 60 to 100°C [because] [k]eeping the draw point hot improves draw performance" (Casey at page 12, lines12-15). Further, Examples 2 and Figs. 7-12 of Casey demonstrate that lower draw temperatures result in increased shrinkage problems with the yarn. In contrast, Claims 46 and 50 of the present application require a draw temperature of less than 60°C, while dependent Claims 11, 27, 47, and 51 require a draw temperature of about 50°C to about 55°C. Further, in present application "[i]t was found that too high a temperature in the first draw stage . . . did not provide as good operability as did a first draw state at 50°C" (Application at page 23, lines 16-19 and Table 4). Given such disclosure in Casey and such findings in the present application, the Casey reference teaches away from the draw temperature limitations of the present invention, thereby further demonstrating the nonobviousness of these claims.

Moreover, given such adverse teachings, it would not have been obvious to modify Casey to arrive at the present invention as one skilled in the art would have no reasonable expectation of success in doing so. "The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success" (MPEP § 2143.02, citing *In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986)). Here, given the disclosure in Casey that both a longer quench zone and higher draw temperature are required to produce suitable fibers, one skilled in the art would have had no reasonable expectation of success in producing these fibers on equipment with shorter quench zones and

cooler draws. This again demonstrates the nonobviousness of the present invention.

In light of the above, Applicants submit that Casey, whether taken alone or in combination with Hernandez, fails to make obvious amended independent Claims 1 and 16 and new independent Claims 46 and 50 of the present application. As all other pending claims are dependent upon, and narrower than these independent claims, all pending claims should be deemed nonobvious in view of these references. In addition, Applicants submit that, even if the independent claims of the present application are deemed obvious, dependent Claims 5, 11, 21, 27, 47, and 51 have herein been demonstrated to be independently nonobvious over these references. Applicants therefore respectfully request that the obviousness rejections to all claims be withdrawn and all claims allowed.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 501447 (Potter Anderson & Corroon LLP).

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Dated: January 14, 2008

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Dated: January 14, 2008